

(FILE 'HOME' ENTERED AT 12:06:02 ON 28 JAN 2002)

FILE 'CAPLUS, MEDLINE, BIOSIS, CA' ENTERED AT 12:09:52 ON 28 JAN 2002

L1 22730 S SECOND (W) HARMONIC (W) GENERATION
L2 706772 S MOLECULE#
L3 510 S L1 AND L2
L4 2085700 S INTERFACE OR MEDIUM
L5 67 S L3 AND L4
L6 842459 S LABEL# OR MARKER#
L7 2 S L5 AND L6

FILE 'STNGUIDE' ENTERED AT 12:17:34 ON 28 JAN 2002

FILE 'CAPLUS, MEDLINE, CA' ENTERED AT 12:20:11 ON 28 JAN 2002

FILE 'STNGUIDE' ENTERED AT 12:20:12 ON 28 JAN 2002

FILE 'CAPLUS, MEDLINE, CA' ENTERED AT 12:21:28 ON 28 JAN 2002

L8 35 DUPLICATE REM L5 NO (32 DUPLICATES REMOVED)
L9 4 S SURFACE (W) SELECTIVE (W) TECHNIQUE
L10 32352 S TAG#
L11 0 S L5 AND L10
L12 92 S SECOND (W) HARMONIC (W) SPECTROSCOPY
L13 540001 S MOLECULE# OR ANALYTE#
L14 6 S L12 AND L13
L15 4 S L1 AND ANALYTE#
L16 98 S NONLINEAR (W) OPTICAL (W) METHOD
L17 2 S L16 AND L6
L18 0 S HARMONIC (W) MOIETY
L19 57 S HARMONIC (S) MOIETY
L20 40 S L1 AND L19
L21 2 S L20 AND L6

L21 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS

TI Mechanical behavior of confined films

AB The force-induced changes in the azimuthal orientation of mol. entities in self-assembled monolayers were studied using the **second harmonic generation** (SHG). A monolayer of N[3(trimethoxy silyl)]propyl 4-nitro phenylamine was adsorbed on an SF10 glass prism. Irradiating the layer with a pulsed laser generates a second **harmonic** signal at 532 nm from the terminating p-nitroaniline **moiety** which, via its hyperpolarizability, served as the **marker** to trace the azimuthal alignment and changes of the tilt angle of the mols. Shear forces causing alignment of the mols. were identified and explained by a simple model based on contact mechanics. The SHG expts. demonstrated can be extended to sum frequency generation studies, which will then allow to study confined org. films more relevant to tech. applications than the model system presented here.

SO Proc. Annu. Meet. Adhes. Soc. (2001), 24th, 26-28

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